

**INTERVIEW SUMMARY**

Applicants wish to thank Examiner Nguyen for the helpful and courteous discussion with Applicants' Representative on March 16, 2007. During this discussion it was noted that EP 0937755 and Türk et al, alone or in combination, fail to disclose or suggest a precipitated silica having a **Sears number greater than 25 ml/5g** or a process as claimed in Claims 10 and 17.

**REMARKS**

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

The present invention as set forth in **amended Claim 1** relates to a precipitated silica having a DBP absorption of from 100 to 450 g/100 g, a choline chloride absorption of from 150 to 400 g/100 g (75% absorption by weight aqueous solution); a DBP/choline chloride absorption of less than 1.07 and a **Sears number greater than 25 ml/5g**.

**Claim 10** relates to a process for preparing precipitated silica having the above properties, comprising, inter alia, simultaneously metering into an aqueous silicate solution more aqueous silicate solution and a Lewis and/or Brønsted acid to provide a mixture, **wherein the metered addition of the aqueous silicate solution and the Lewis and/or Brønsted acid is carried out while maintaining a constant alkali number in the mixture of at least 1.**

**Claim 17** relates to a process for preparing precipitated silica having the above properties, comprising, inter alia, simultaneously metering into a vessel an aqueous silicate solution and a Lewis and/or Brønsted acid to provide a mixture, **wherein the metered addition of the aqueous silicate solution and the Lewis and/or Brønsted acid is carried out while maintaining a constant alkali number in the mixture of at least 1.**

In contrast, EP 0937755 (EP'755) and Türk et al (US'379), alone or in combination, fail to disclose or suggest a precipitated silica and processes as claimed.

At page 3, last paragraph to page 4, 1<sup>st</sup> paragraph of the Office Action, the Examiner alleges, that EP'755 inherently discloses Sears numbers being the same as those claimed in the present invention. Applicants disagree. There is no disclosure or suggestion in EP'755 of a **Sears number greater than 25 ml/5g**.

A carrier silica gel may have a certain porosity. However, an overlap of the ranges for DBP and BET does not mean that the silica gels from EP '755 and those of the present invention are identical and/or have the same properties.

In fact, Applicants have measured the Sears numbers of an original sample of Product A Experiment 6 (see Table 9 of EP'755) and found a value of 19,9 ml/5g. (A signed Rule 132 Declaration will be submitted shortly.) In addition the Sears number of an original sample of Product C Experiment 13 (see Table 9 of EP'755) was measured and found to be 22,6 ml/5g. Thus the Sears numbers of EP'755 are at least 10% below the Sears numbers as now claimed in Claim 1 of the present invention. Thus, the Examiner's statement that EP'755 has the same Sears number as the present invention is incorrect.

The surface chemistry of the silica gels is described not solely by the DBP/CC ratio, but rather the silica gels from EP '755 have clearly lower Sears numbers, i.e. numbers of silanol groups on the silica gel surface, despite of a comparable DBP/CC ratio (examples from EP '755 had 19.9 mL/5 g and 22.6 mL/5 g, respectively; the silica gels according to the present invention have Sears numbers of 28.5 to 31.5 mL/5 g). Therefore, it has been clearly proven that one cannot conclude a comparable Sears number from a comparable DBP/CC ratio.

Further, it appears that the Examiner is referring to similarities of the methods of EP '755 and the present invention as indication that similar Sears numbers are achieved. Applicants disagree.

Three different types of silica gel, A, B, and C, are described in EP '755. All three have different production methods. The methods for the silica gels A and B are so-called "pH precipitation methods," in which the pH is kept constant during the precipitation (see Examples 1 and 2 of EP '755). The method of the present invention is a so-called "AN precipitation method," in other words the alkali number (AN) is kept constant. It was already

pointed out in the specification of the present application that pH precipitation methods are something different, and lead to different silica gels than AN precipitation methods (see page 3, lines 6-18). Thus, the methods for making silica gel types A and B of EP '755 are different and cannot result in the precipitated silica of the present invention.

The silica gel C from Example 3 of EP '755 is prepared using AN precipitation. The method according to Example 3 of EP '755 nevertheless differs decisively from that of the present invention, as the following table shows:

Method parameters	EP '755, Example 3	Invention, Examples 1-8
Precipitation time (min)	90	40-65
Precipitation temperature (°C)	91-93	85
Alkali number	7	20-40
Solid content of the suspension (g/l)	72	80-105

As can be seen, numerous significant parameters of the method of the present invention are clearly different. Thus, the precipitation time is not even half as long as in EP '755, in some instances. The alkali number is 3-6 times greater.

The total combination of method parameters brings about the clearly different surface chemistry. Re-measuring the Sears number of Example 3 of EP '755 yielded a Sears number of 22.6 ml/5 g. This value is very much lower than the approximately 30 ml/5 g of the silica gels according to the invention. It is immediately evident to a person of ordinary skill in the art that an increase in the Sears number by more than 30% brings about significant method changes. This is confirmed by the above table.

Therefore, the Examiner's argument of a "similar" method also cannot support the Examiner's assertion of a Sears number in the claimed range. As shown above, the Sears number is a clear distinction criterion. Sears numbers of greater than 25 are neither disclosed nor made obvious in EP '755.

Further, on page 6, 4<sup>th</sup> paragraph, of the Office Action, the Examiner states that the process of the invention, i.e. using an alkaline number of at least 15 and the step of adding an electrolyte prior to or during the simultaneously addition of sodium silicate and sulphuric acid, would be obvious in the light of EP'755 in combination with US'379. Applicants disagree.

Two characteristics of the silica of the present invention are

- I) a **low DBP/CC-ratio**,
- II) a **high alkaline number**.

A low DBP/CC ratio, can either be obtained by decreasing the DBP or by increasing the CC ratio.

US'379 teaches away from the present invention. According to Example 19 of US'379, an increase of the alkaline number leads to an increase of the DBP, i.e. a **high** DBP/CC ratio. An object of the present invention, however, is a **low** DBP/CC ratio. Thus a person of ordinary skill in the art, would not use high alkaline numbers to solve the problem of the invention based on the disclosure of US'379. There is no disclosure or suggestion in US'379 on how to increase the DPB/CC ratio. Thus, based on the information disclosed in US'379, a person of ordinary skill in the art would use an alkaline number as low as possible in order to lower the DBP/CC ratio. This is contrary to the process claimed in the present invention.

EP'755 also lacks disclosure of use of high alkaline numbers. Thus, even the combination of EP'755 with US'379 cannot result in the present invention.

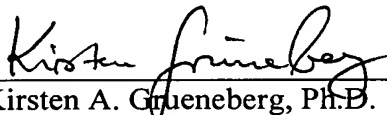
Therefore, the rejection of Claims 1, 4, 10, 14-17, 22-25 under 35 U.S.C. § 102(b) as being unpatentable over EP 0937755, the rejection of Claims 1, 4-5, 10, 13-17, 22-25 under 35 U.S.C. § 103(a) as being unpatentable over EP 0937755 and the rejection of Claims 11-12, 18-19 under 35 U.S.C. § 103(a) as being unpatentable over EP 0937755 in view of Türk et al are believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of these rejections is respectfully requested.

Even though the Examiner has clearly considered the reference filed February 25, 2005, as Chevalier was used for the previous rejection, Applicants still would appreciate if the Examiner could forward an initialed, signed and dated Form PTO 1449. For the Examiner's convenience a copy of **Form PTO 1449 as filed on February 25, 2005**, is attached herewith.

This application presents allowable subject matter, and the Examiner is kindly requested to pass it to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.  
Norman F. Oblon

  
Kirsten A. Grueneberg, Ph.D.  
Registration No.: 47,297

Customer Number  
**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
NFO:KAG: